Appl. No. 10/591,629 Attorney Docket No. Serie 6550 CIP Amdt. dated August 29, 2008 Amendment Accompanying RCE

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1 - 18 (cancelled)

Claim 19 (Currently Amended): A method for forming a MSiN dielectric film comprising the steps of:

- a) vaporizing a metal source (M) to form a vaporized metal source;
- providing a vapor phase silicon source, wherein said silicon source has a vapor pressure of at least 50 torr at about 20°C;
- feeding a plurality of precursors to a deposition device <u>having a</u> <u>substrate disposed therein</u>, wherein said precursors comprise said vaporized metal source, said silicon source, and a nitrogen source; and
- d) forming [[a]] the MSiN dielectric film on the substrate, wherein said dielectric film is formed from the said precursors in a single step such that the desired final MSiN dielectric film is fully formed absent a post deposition step.

Claim 20 (Currently Amended): A method for forming a MSiO metallic film comprising the steps of:

- a) vaporizing a metal source to form a vaporized metal source;
- providing a vapor phase silicon source, wherein said silicon source has a vapor pressure of at least 50 torr at about 20°C;
- feeding a plurality of precursors to a deposition device <u>having a</u> <u>substrate disposed therein</u>, wherein said precursors comprise said vaporized metal source, said silicon source, and an oxygen source; and

Appl. No. 10/591.629 Attorney Docket No. Serie 6550 CIP

Amdt. dated August 29, 2008 Amendment Accompanying RCE

> d) forming [[a]] the MSiO metallic film on the substrate, wherein said metallic film is formed from the said precursors in a single step such

that the desired final-MSiO metallic film is fully formed absent a post

deposition step.

Claim 21 (previously presented): The method of claim 19, wherein said silicon

source comprises a molecular structure absent carbon and/or a molecular structure

absent chlorine.

Claim 22 (cancelled)

Claim 23 (cancelled)

Claim 24 (previously presented): The method of claim 19, wherein said silicon

source is selected from the group comprising:

disiloxane: a)

b) trisilylamine;

c) disilylamine;

d) silylamine;

tridisilvlamine: e)

f) aminodisilylamine;

g) tetrasilyldiamine;

h) disilane:

i) derivatives of disilane and/or trisilane; and

i) mixtures thereof

Claim 25 (previously presented): The method of claim 20, wherein said oxygen

source comprises a molecular structure absent carbon and/or a molecular structure

absent chlorine

3

Appl. No. 10/591.629 Attorney Docket No. Serie 6550 CIP Amdt. dated August 29, 2008

Amendment Accompanying RCE

Claim 26 (previously presented): The method of claim 20, wherein said oxygen source is selected from the group comprising:

- a) oxygen;
- b) nitrous oxide:
- c) ozone;
- d) disiloxane: and
- mixtures thereof. e)

Claim 27 (previously presented): The method of claim 19, wherein said nitrogen source comprises a molecular structure absent carbon and/or a molecular structure absent chlorine.

Claim 28 (previously presented): The method of claim 19, wherein said nitrogen source is the same as said metal source or said silicon source.

Claim 29 (previously presented): The method of claim 19, wherein said nitrogen source is ammonia.

Claim 30 (previously presented): The method of claim 19, wherein said metal source is selected from the group consisting of a dialkylamino, and alkoxy ligands.

Claim 31 (previously presented): The method of claim 19, wherein said metal source is an inorganic compound selected from the group consisting of:

- a) hafnium (Hf):
- b) zirconium (Zr);
- c) titanium (Ti);
- d) niobium (Nb):
- tantalum (Ta): e)

Appl. No. 10/591,629 Attorney Docket No. Serie 6550 CIP Amdt. dated August 29, 2008 Amendment Accompanying RCE

- f) scandium (Sc);
- q) yttrium (Y);
- h) lanthanum (La):
- gadolinium (Gd);
- europium (Eu);
- k) praseodymium (Pr) or any another lanthanide (Ln); and
- mixtures thereof.

Claim 32 (previously presented): The method of claim 19, wherein the amounts of said metal source and said silicon source in said desired final composition of said dielectric film are controlled independently.

Claim 33 (previously presented): The method of claim 19, wherein said dielectric film is completed by using a chemical vapor deposition process.

Claim 34 (previously presented): The method of claim 19, wherein said dielectric film step is completed by using an atomic layer deposition process.

Claim 35 (previously presented): A MSiN dielectric film obtained in accordance with the process of claim 19.

Claim 36 (previously presented): A MSiO metallic film obtained in accordance with the process of claim 20.

Claim 37 (previously presented): The method of claim 20, wherein said silicon source comprises a molecular structure absent carbon and/or a molecular structure absent chlorine.

Appl. No. 10/591,629 Attorney Docket No. Serie 6550 CIP Amdt. dated August 29, 2008 Amendment Accompanying RCE

Claim 38 (previously presented): The method of claim 20, wherein said silicon source is selected from the group comprising:

- a) disiloxane;
- b) trisilylamine;
- c) disilylamine;
- d) tridisilylamine;
- e) aminodisilylamine;
- f) tetrasilyldiamine;
- g) derivatives of disilane and/or trisilane; and
- h) mixtures thereof.

Claim 39 (previously presented): The method of claim 20, wherein said oxygen source is the same as said metal source or said silicon source.

Claim 40 (previously presented): The method of claim 20, wherein said metal source is an inorganic compound selected from the group consisting of:

- a) hafnium (Hf);
- b) zirconium (Zr);
- c) titanium (Ti):
- d) niobium (Nb):
- e) tantalum (Ta);
- f) scandium (Sc);
- g) yttrium (Y);
- h) lanthanum (La);
- i) gadolinium (Gd);
- europium (Eu);
- k) praseodymium (Pr) or any another lanthanide (Ln); and
- mixtures thereof.

Appl. No. 10/591,629

Attorney Docket No. Serie 6550 CIP

Amdt. dated August 29, 2008 Amendment Accompanying RCE

Claim 41 (previously presented): The method of claim 20, wherein the amounts of

said metal source and said silicon source in said desired final composition of said

dielectric film are controlled independently.

Please add the following new claims:

Claim 42 (New): The method of claim 19, wherein the post deposition step is an

anneal step, whereby the MSiN dielectric film is fully formed on the substrate to

produce a desired final film without subjecting the MSiN dielectric film an anneal step.

Claim 43 (New): The method of claim 20, wherein the post deposition step is an

anneal step, whereby the MSiO metallic film is fully formed on the substrate to

produce a desired final film without subjecting the MSiO metallic film an anneal step.

7